REMARKS

Claims 1-14 and 16-20 are all the pending claims, with claims 1, 6, and 11 being written in independent form.

I. Allowable Subject Matter:

The Examiner continues to indicate claims 11-14 and 16-20 are allowable over the prior art.

The Examiner also indicates that claim 10 would be allowable if it were rewritten in independent form and to overcome the rejections under 35 U.S.C. § 112(2nd). Applicants do not rewrite claim 10 (as suggested by the Examiner) because independent claim 6 is believed to be patentable for the reasons discussed in detail below.

II. Claim Rejections Under 35 U.S.C. § 112(2nd):

The Examiner rejects claims 1-10 under 35 U.S.C. 112(2nd) for the reasons noted at numbered paragraph 3 of the Office Action. As a path of least resistance, and without acquiescing to the correctness of the Examiner's position, Applicants amend independent claims 1 and 6 by altogether deleting the objectionable term "full scale range" in favor of reciting that the digital representation of the signal is scaled "by a scaling factor determined from a received equipment setting of at least one component of said base station." Express, straightforward written description support can be found throughout the specification. For example, the Examiner's attention is respectfully directed to the third full paragraph of page 5 – the first pull paragraph of page 8. Also, Fig. 1 schematically illustrates "Equipment Specific Settings" as an input of the controller 40, which in the exemplary, non-limiting embodiment is the element that determines the scaling factors.

Applicants respectfully submit that the amended claims more particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised rejections under 35 U.S.C. 112(2nd).

III. Claim Rejections on Prior Art Grounds:

The Examiner rejects claims 1 and 6 under 35 U.S.C. 102(b) as being anticipated by U.S. 5,623,513 to Chow et al. ("Chow"); claims 1, 3, and 5-7 under 35 U.S.C. 102(e) as being anticipated by U.S. 6,535,564 to Mandyam ("Mandyam"); claims 1, 3, and 5-7 under 35 U.S.C. 103(a) as being obvious over Mandyam; claims 1 and 6 under 35 U.S.C. 103(a) as being obvious over Chow; and claims 2, 4, 8, and 9 under 35 U.S.C. 103(a) as being obvious over Mandyam, and further in view of U.S. 6,504,862 to Yang ("Yang"). Applicants respectfully traverse these rejections in view of the following remarks.

The Chow Reference

The Examiner relies heavily upon the Chow reference to teach or suggest each and every feature of the invention defined by independent claims 1 and 6. In so doing, the Examiner cites Fig. 5 and points out that the scaler 28 scales a digital signal before the signal is input to a DAC 14. Applicants agree to the extent that Chow indicates that the scaler 28 provides an amplitude scaling of signal samples supplied to the DAC 14. In fact, the scaler 28 determines whether each multi-carrier symbol is to be scaled down in energy by 0, 1, 2, or 3 dB in order to reduce or avoid clipping.

In contrast to the claimed invention, however, Chow does not indicate how the amount of energy reduction is determined, much less that it is determined from a received equipment setting of at least one component of the base station. In this regard, Chow seems to suggest that the different levels in

energy reduction are preset values that may be applied by the system, but not determined by the system. Accordingly, Applicants respectfully submit that independent claims 1 and 6 recite features that are practically and conceptually different than Chow.

The Mandyam Reference

The Examiner relies heavily upon the Mandyam reference to teach or suggest each and every feature of the invention defined by independent claims 1 and 6. With reference to Fig. 1 of Mandyam, the disclosed system includes adaptive scalers 108, 110 that determine scaling factors that are used to scale the output of shaping filters 104, 106 before the signal is input to DAC's 112, 114. According to Mandyam's straightforward and explicit disclosure, the scaling factors are derived from the probability density function ("pdf") of the signals at the output of the shaping filters 104, 106. The scaling factors are derived by minimizing the mean-squared error between the DAC output signal and the DAC input signal over each pdf that exists for the input signal.

Mandyam's disclosure indicates (at great length and detail) the mathematical and empirical formulations for deriving the scaling factors. See for example column 3, line 20 – column 6, line 51. Mandyam does not, however, indicate that the scaling factor may be determined from a received equipment setting of at least one component of the base station. In fact, and with reference to Fig. 1, none of the illustrated elements receive an equipment setting of at least one component of the base station.

Summary

In summary, none of the prior art references asserted by the Examiner teach or suggest introducing digital gain by scaling a digital representation of said signal "by a scaling factor determined from a received equipment setting of

at least one component of said base station," as recited in independent claims 1 and 6. For at least this reason, Applicants respectfully assert that independent claims 1 and 6 are patentable, and that claims 2-5 and 7-10 are patentable at least by virtue of their dependencies.

CONCLUSION

If any matters remain at issue in the application, the Examiner is invited to contact the undersigned at (703) 668-8000 in the Northern Virginia area, for the purpose of a telephonic interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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